

What is claimed is:

1. An electrostatic vibration type device comprising:  
a base portion;

a vibrator movably equipped to the base portion so as to vibrate in a predetermined direction, wherein the vibrator includes a frame portion designed to have a planar frame shape, and at least one in-frame fixed portion that is fixed to the base portion and located in an inner space surrounded by an inner peripheral portion of the frame portion; and

at least one driving electrode for applying electrostatic force to the vibrator to drive the vibrator so that the vibrator vibrates in the predetermined direction, wherein the at least one driving electrode comprises:

a first driving electrode disposed to confront an outer peripheral portion of the vibrator; and

a second driving electrode equipped to the in-frame fixed portion and disposed so to confront the inner peripheral portion of the frame portion,

wherein at least one of a back-side portion of the in-frame fixed portion located at opposite sides to the arrangement portion of the second driving electrode and a back-side portion of the inner peripheral portion of the frame portion confronting the back side portion of the in-frame fixed portion is designed to have an unevenly-shaped portion.

2. The electrostatic vibration type device according to the claim 1, wherein both the back-side portions of the in-frame

fixed portion and the inner peripheral portion of the frame portion which confronts the back-side portion are designed to have the unevenly-shaped portion.

3. The electrostatic vibration type device according to claim 2, wherein the frame portion is partially cut out to form a notch portion in the frame portion, and the in-frame fixed portion extends from the base portion through the notch portion into the inner peripheral portion of the frame portion.

4. The electrostatic vibration type device according to claim 2, wherein the unevenly-shaped portion of the back-side portion of the in-frame fixed portion and the unevenly-shaped portion of the inner peripheral portion of the frame portion which confronts the back-side portion are arranged to be displaced from each other in phase.

5. The electrostatic vibration type device according to claim 2, wherein the unevenly-shaped portion of the back-side portion of the in-frame fixed portion and the unevenly-shaped portion of the inner peripheral portion of the frame portion have a shape selected from a group consisting of a planar rectangular shape, a triangular shape, a trapezoidal shape, a semi-circular shape and a saw-tooth shape.

6. The electrostatic vibration type device according to claim 1, wherein the frame portion is partially cut out to form

a notch portion in the frame portion, and the in-frame fixed portion extends from the base portion through the notch portion into the inner peripheral portion of the frame portion.

7. An electrostatic vibration type device comprising:  
a base portion; and

a vibrator movably equipped to the base portion and comprised of a frame portion designed to have a planar frame shape and at least one in-frame fixed portion that is fixed to the base portion and located in an inner space surrounded by an inner peripheral portion of the frame portion, wherein at least one of a back-side portion of the in-frame fixed portion and a back-side portion of the inner peripheral portion of the frame portion confronting the back side portion of the in-frame fixed portion is designed to have an unevenly-shaped portion.

8. The electrostatic vibration type device according to the claim 7, wherein both the back-side portions of the in-frame fixed portion and the inner peripheral portion of the frame portion which confronts the back-side portion are designed to have the unevenly-shaped portion.

9. The electrostatic vibration type device according to claim 8, wherein the unevenly-shaped portion of the back-side portion of the in-frame fixed portion and the unevenly-shaped portion of the inner peripheral portion of the frame portion which confronts the back-side portion are arranged to be

displaced from each other in phase.

10. The electrostatic vibration type device according to claim 8, wherein the unevenly-shaped portion of the back-side portion of the in-frame fixed portion and the unevenly-shaped portion of the inner peripheral portion of the frame portion have a shape selected from a group consisting of a planar rectangular shape, a triangular shape, a trapezoidal shape, a semi-circular shape and a saw-tooth shape.